

EXAMPLE 26

(1) A recording material composition was produced by repeating the same procedures as in item (1) of Example 1.

(2) The composition was coated on one surface of a glass plate substrate having a dimension of 50 x 60 x 1.5 mm to a thickness of 10 μm . Acetone was removed from the coated layer under reduced pressure, to produce a recording material having a two-layer structure comprising the substrate and the recording layer.

(3) A protective material comprising a glass plate having the same size as the substrate was placed to cover the recording layer, to produce a three-layer photosensitive plate of a sandwich form for recording a hologram.

(4) An object to be recorded was irradiated with He-Cd laser light, and interference was formed between reference light reflected from a reflector and object light reflected from the object. The three-layer photosensitive plate for recording a hologram was placed at a position, at which a fringe pattern formed by the interference could be caught. The photosensitive plate was exposed to the He-Cd laser light (10 mW/cm²) for a prescribed period of time under the conditions, and an interference fringe to be a hologram could be recorded on the photosensitive plate only by this operation.

No operation of development or fixing was necessary. Because the recording layer was sandwiched by the two glass plates, the thickness of the recording layer was uniform after exposure. There was no unevenness between a portion that had been irradiated with light of a high intensity

and a portion that had been irradiated with light of a low intensity, and the record was formed with a refractive index modulation. A transparent hologram having a high brightness (diffraction efficiency: 60%, resolution: 2,000 or more lines per mm) and substantially no absorption in the visible region was thus obtained. A stable image was maintained after removing the protective material.

The recording material compositions obtained in Examples 1 to 23 and capability of copying conducted by using them are shown in Tables 1 and 2.

Table 1

EX AMP LE	polymer	monomer	Benzil (g)	Michler's ketone (g)	acetone (g)	copying
1	8	2	0 . 3	0 . 1	2 2	good
2	9	1	0 . 3	0 . 1	2 2	good
3	7	3	0 . 3	0 . 1	2 2	good
4	6	4	0 . 3	0 . 1	2 2	good
5	5	5	0 . 3	0 . 1	2 2	good
6	4	6	0 . 3	0 . 1	2 2	good
7	3	7	0 . 3	0 . 1	2 2	good
8	2	8	0 . 3	0 . 1	2 2	good

polymer: diallylorthophthalate prepolymer (Daiso DAP, Type A)

monomer: ethylene glycol dimethacrylate